

Heredity

The passing of genetic traits from parent to offspring

Gene- one set of instructions for an inherited trait

Ex. Eye Color

Alleles- a type or category of a gene

Ex. Brown



Traits

Dominant Trait

- a trait that appears more often in offspring
- shows in an offspring when just one parent contributes the gene

Recessive Trait

- a trait that appears less often in an offspring
- shows in an offspring only when both parents contribute a gene.

Trait Representation

- Each Trait is assigned a letter
- Dominant Traits are written in capital letters
- Recessive Traits are written in lower case letters

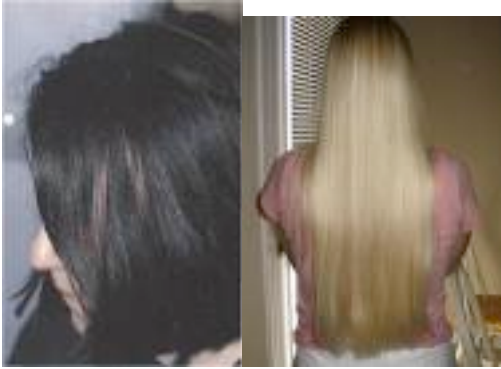
ex- hair color can be assigned the letter H

Dark hair is a dominant trait so it will be assigned – **H**

Blonde hair is a recessive trait so it will be assigned – **h**

A person with dark hair could be HH or Hh

A person with blonde hair would be hh



Genotype

Both inherited alleles from a parent for a trait.

Ex. Mom gives a dark hair allele – H

Dad gives a blonde hair allele – h

Genotype – Hh

Ex. Mom gives blonde hair allele- h

Dad gives blonde hair allele – h

Genotype – hh

Homozygous- both alleles are the same Ex. HH or hh

Heterozygous- both alleles are different Ex. Hh

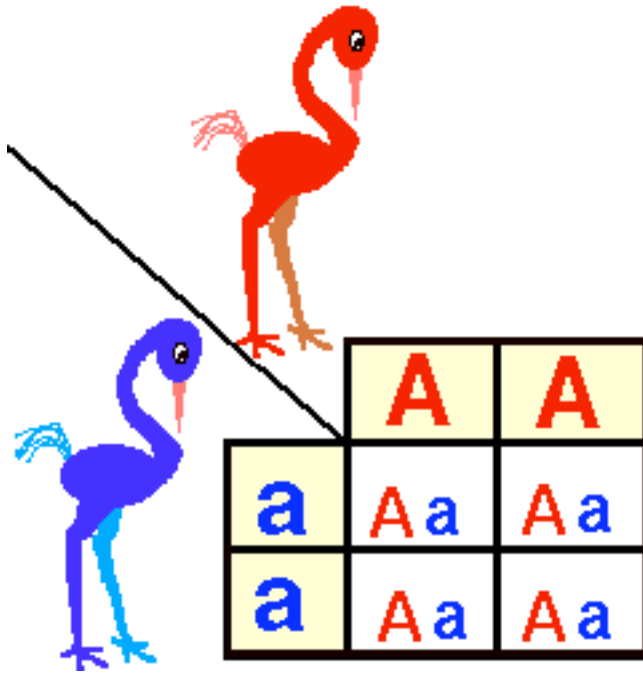
Phenotype

An organism's appearance and other visible characteristics



Punnett Squares

- helps determine the probability of an offspring acquiring a specific trait from their parents.



Ex.

Hair Color

Mom- dark hair HH

Dad- Blonde hair hh

Step One : List the mom's traits across the top of the square(one above each block)

List the dad's traits on the left side of the Square (on next to each block)

Step Two

Match the mom's allele in the column with the dad's allele in the row

Step Three

Figure out the probability for each genotype

Incomplete Dominance

Two alleles share dominance and produce a mixed trait

Ex. Red Flower + White Flower

Sometimes could produce a pink plant



One Gene, Many Traits

Sometimes one gene could influence more than one trait

Ex. White Tigers- the white fur is caused by a single gene, but it also causes blue eyes.

